

REMARKS

Claims 1-37 are pending in this application. Claims 5-24 have been withdrawn from consideration. Claims 1, 28, 35 and 37 have been amended.

Rejections under 35 U.S.C. §102(b)

Claims 1 and 2 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,741,710 issued to Ek (hereinafter "Ek"). In particular, on page 3 of the final Office Action, the Office states that the "port is in fluidic contact with a sample carrier tube (25)."

Applicants have amended claim 1 such that claim 1 now recites that the carrier is adapted to have a biological sample coupled to the surface carrier. Applicants believe this amendment clarifies the present invention. The present invention describes a biological sample coupled to a carrier via, for example, a technique called laser capture microdissection. In this technique, the carrier includes a transfer film. The carrier and film are adapted to be employed with a laser capture microdissection instrument. In this technique, the transfer film is activated by a laser such that a targeted portion of the biological sample is adhered to the transfer film. The carrier along with the transferred portion of biological sample is then transported from the laser capture microdissection instrument to an analysis location that includes the biological sample processing system of the present invention. The carrier itself is adapted to mate with the reaction chamber such that the targeted portion of the biological sample is entered into the analysis. Ek does not disclose, teach or suggest the biological sample being coupled to the carrier. In contrast, in Ek, element designated by reference numeral 25 is a "valve 25 that is associated with inlet or outlet tube 20". Ek, col. 3, lines 5-6. The sample in Ek is not coupled to the carrier as in the present invention, but transported via tubes and valves into the reaction chamber. Therefore, applicants believe claims 1 and 2, as amended, are not anticipated by Ek.

*coupled
means
"connected to"*

Rejections under 35 U.S.C. § 103(a)

Claims 1, 4, 26, 28, 29 and 31-37 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,084,660 to Shartle (hereinafter "Shartle '660").

In order to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. MPEP §2143. Applicants believe that Shartle '660 fails to disclose, teach or suggest at least the limitations of (1) a sample carrier, (2) a sample carrier mated with the reaction chamber, and (3) a sample carrier that is adapted to have a biological sample coupled to the surface of the sample carrier.

In particular, Shartle '660 does not disclose a sample carrier. In Shartle '660, blood is placed into a sample port 12. Furthermore, Shartle '660 does not disclose, teach, or suggest a sample carrier mated with the reaction chamber to become part of the circuit. Shartle '660 only provides a port 12 and no carrier is disclosed, taught or suggested to mate with this port 12 to become part of the fluidic circuit. On pages 4-5 of the final Office Action, the Office states that measurement area 18 of Shartle '660 is the reaction area; however, applicants point out that no carrier is shown to mate with this measurement area 18 or port 12.

Also, Shartle '660 does not disclose, teach or suggest a carrier being adapted to have a biological sample coupled to the surface of the carrier. In contrast, the sample in Shartle '660 is fluidly introduced without a carrier. Hence, Shartle '660 teaches away from this limitation of coupling a biological sample to a solid substrate surface of the carrier that is then entered into the circuit.

In addition, claims 31-36 recite a first chamber having three ports. Shartle '660 does not disclose, teach or suggest a first chamber having three ports. Also, Shartle '660 does not disclose, teach or suggest a sample carrier being coupled to the first chamber at the first port as discussed above. Claim 34 also recites a third chamber coupled to the first chamber via a second conduit. Shartle '660 also does not disclose, teach or suggest this claim element in addition to the sample carrier being coupled to the first chamber. Claim 35 also recites a third conduit coupled to the third chamber. This claim limitation is also not disclosed, taught or suggested in

Shartle '660. Claim 37 recites a fourth layer that defines the first chamber. Shartle '660 does not disclose, teach or suggest this claim limitation. For these reasons, applicants believe that independent claims 1, 28, and 31 and their respective dependent claims are believed to be in a condition for allowance and action toward that end is respectfully requested.

Claims 3, 25, 27, and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Shartle '660 as applied to claims, 1, 4, 26, 28, 29 and 31-37 above and further in view of U.S. Patent 5,627,041 to Shartle (hereinafter "Shartle '041").

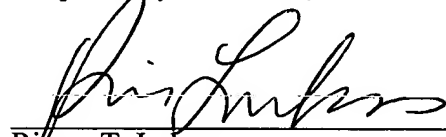
Claims 25, 27, and 30 state that the sample processing device comprising the biological sample processing system is a centrifuge tube. This limitation is not disclosed, taught or suggested in Shartle '660 or Shartle '041. For example, FIGs. 1-14 of the present invention disclose variations of the present invention in which the sample processing device of the sample processing system is a centrifuge tube and the carrier of these variations is a cap for the centrifuge tube. The cap that carries a sample mates with the centrifuge tube. The limitation of the device being a centrifuge tube is not disclosed, taught or suggested in the prior. For these, reasons, applicants believe these claims are nonobvious and also in a condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 485772000500. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

1. (Amended twice) A biological sample processing system, comprising:
a sample processing device including a reaction chamber having a first port; and
a biological sample carrier mated with the reaction chamber at the first port to form a
fluidic circuit; the sample carrier having a surface;
wherein the sample carrier is adapted to have a biological sample coupled to the surface
of the sample carrier.

28. (Amended once) A biological sample processing system, comprising:
a sample processing device including:
a first chamber having a first port and a second port; and
a second chamber fluidly coupled to the first chamber via the second port; and
a sample carrier fluidly coupled to the first chamber at the first port;
wherein the sample carrier is adapted to have a biological sample coupled to the surface
of the sample carrier.

35. (Amended once) The biological sample processing system of claim 3[1]4,
wherein the sample processing device further includes a third conduit fluidly coupled to the third
chamber.

37. (Amended once) The biological sample processing system of claim 36, wherein
the laminated assembly includes:
a first layer;
a second layer defining the second chamber, first conduit and second conduit;
a third layer defining a fill port and stop junction holes; and
a fourth layer defining the first chamber;
wherein the second layer is located between the first layer and third layer; the third layer being
located between the second layer and [third] fourth layer.